JS 10/28/21
RJA 2/17/22

INITIAL REVIEW ENGINEERING REPORT [redacted]
PMN: 18-0233

Focus Ready Draft 7/30/2018
ENGINEER: [redacted]
PV (kg/yr): [redacted]

SUBMITTER: [redacted]

USE: Resin in solvent-borne [redacted].

OTHER USES: [redacted]

MSDS: Yes Label: No

Gen Eqpt: [redacted]

Respirator: [redacted]

Health Effects: [redacted]

TLV/PEL:

CRSS (07/16/2018):

Chemical Name: [redacted]

S-H20: 1E-06 g/L @

VP: 1.0E-6 torr @

MW: [redacted]

Physical State and Misc CRSS Info:

Neat: Solid Mfg: NK: Imported Proc/Form: Solution: [redacted] PMN material, then [redacted] in solvent-borne coating formulation End Use: Solid: PMN material entrained in coating. A Sustainable Futures Assessment Summary was provided as an attachment to the submission.

Submitted data: [redacted]

Estimated data: high boiling point and negligible vapor pressure and water solubility (high MW polymer).

[redacted]

Consumer Use: No

SAT (concerns) (07/17/2018):

Related Cases and Misc SAT Info:

Analogs: [redacted]

Migration to groundwater: Negligible

PBT rating: P3B1T2

Health: 2 Dermal, Drinking Water, Inhalation, Other

Eco: 1 No releases to water

OCCUPATIONAL EXPOSURE RATING: [redacted]

NOTES & KEY ASSUMPTIONS:
Occupational exposure and environmental releases were estimated using the 9/30/2013 version of ChemSTEER tool. Input to ChemSTEER tool includes information from: the PMN submission, physical / chemical properties, relevant past cases, and the 2010 Auto Refinish ESD. SAT concerns arefor dermal, drinking water, and inhalation exposures. The following similar use past cases were referenced for consistency: [redacted] // PMN is imported in resin formulation; therefore, a manufacturing operation was not assessed. // PROC: RAD assessed release from container and equipment cleaning (consistent with all past cases). RAD assessed dermal exposure during unloadign (consistent with all past cases). // USE: RAD referenced the 2010 Auto Refinish ESD to estimate releases and exposures (consistent with [redacted]. RAD assessed releases from container cleaning, equipment cleaning, and application of paint (consistent with all past cases). RAD assessed dermal exposure during unloading and inhalation exposure during application (consistent with all past cases).

POLLUTION PREVENTION CONSIDERATIONS:
No Pollution Prevention information was provided by the submitter. A Sustainable Futures Assessment Summary was provided as an attachment to the submission.

EXPOSURE-BASED REVIEW: No

INITIAL REVIEW ENGINEERING REPORT [redacted]

PMN: 18-0233

Processing: Formulation of [redacted]

Number of Sites/ Location: [redacted]

[redacted]

Days/yr: [redacted]

Basis: Submission identifies one formulation site and indicates PMN is formulated from [redacted] CS calculates use rate of [redacted]

Process Description: [redacted] (submission)

ENVIRONMENTAL RELEASES ESTIMATE SUMMARY

IRER Note: The daily releases listed for any source below may coincide with daily releases from the other sources to the same medium. // Note that submitter provided release estimates using EPA/OPPT models. However, VP = 1E-06; therefore, RAD does not assess air releases as they are expected to be negligible (no operations occur at elevated temperatures).

Water or Incineration or Landfill
High End: [redacted]

to: Off-Site Incineration (submission)

from: Cleaning [redacted] Residuals from Drums Used to Transport the Raw Material

basis: EPA/OPPT Drum Residual Model, CEB standard 3% residual. Submission estimates that 2 kg PMN/day is released to off-site incineration from container disposal. RAD assesses release with standard model, which is more conservative. Submisison states that emptied drums are immediately re-capped, treated as hazardous materials and sent off-site for incineration. Because site is identified, RAD assesses release to off-site incineration per the submission.

Incineration
Conservative: [redacted]

to: Off-Site Incineration (submission)

from: Equipment Cleaning Losses of [redacted] from a Single, Large Vessel

basis: EPA/OPPT Single Vessel Residual Model, CEB standard 1% residual. Submission estimates that 2 kg PMN/day is released to off-site incineration from equipment cleaning. Standard EPA/OPPT model is used as conservative. Submitter indicates that the mixing vessel is cleaned after each batch. Submisison states that process vessel "wash water" is captured and stored in drums and disposed of as hazardous waste in a hazardous waste handling for incineration. Because site is identified, RAD assesses release to off-site incineration per the submission.

RELEASE TOTAL
[redacted]

OCCUPATIONAL EXPOSURES ESTIMATE SUMMARY
Tot. # of workers exposed via assessed routes: [redacted]
Basis: Submission indicates that there are [redacted] RAD assesses [redacted] workers potentially exposed.

Inhalation:

Dermal:

Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years.

Exposure to [redacted] at [redacted] concentration

High End:

> Potential Dose Rate: [redacted]

> Lifetime Average Daily Dose: [redacted]

> Average Daily Dose: [redacted]

> Acute Potential Dose: [redacted]

Number of workers (all sites) with dermal exposure: [redacted]

Basis: Unloading [redacted] Raw Material from Drums; EPA/OPPT 2-Hand Dermal Contact with [redacted] Model.

INITIAL REVIEW ENGINEERING REPORT [redacted]

PMN: 18-0233

Use: Application of [redacted]

Number of Sites/ Location: [redacted]

unknown site(s)

Days/yr: [redacted]

Basis: The 2010 Auto Refinish ESD recommends using [redacted] PMN is [redacted]. Submission attached an engineering report estimating [redacted] PMN/st-day.

Process Description: [redacted] (per CRSS, submission, and ESD)

ENVIRONMENTAL RELEASES ESTIMATE SUMMARY

IRER Note: The daily releases listed for any source below may coincide with daily releases from the other sources to the same medium.

Water or Incineration or Landfill
High End: [redacted]

to: Incineration or landfill (ESD)

from: Cleaning [redacted] Residuals from Containers Used to Transport the Raw Material

basis: EPA/OPPT Small Container Residual Model, CEB standard 0.6% residual. The ESD recommends using the small container residual model for container cleaning. The ESD estimates releases may be to incineration or landfill.

Air
Typical: [redacted]

Worst Case: [redacted]

to: Air (4%), Incineration or Landfill (96%) (Model)

from: Coating Using Hand-Held Spray Gun

basis: EPA/OPPT Automobile Refinish Coating Overspray Loss Model (non-volatiles). EPA assumes spray application as worst-case. EPA uses the Auto Refinish Model to estimate release from spray coating (consistent with past cases [redacted]).

Incineration or Landfill
Typical: [redacted]

Worst Case: [redacted]

to: Air (4%), Incineration or Landfill (96%) (Model)

from: Coating Using Hand-Held Spray Gun

basis: EPA/OPPT Automobile Refinish Coating Overspray Loss Model (non-volatiles). EPA assumes spray application as worst-case. EPA uses the Auto Refinish Model to estimate release from spray coating (consistent with past cases [redacted]).

Incineration or Landfill
Conservative: [redacted]

to: Incineration or landfill (ESD)

from: Equipment Cleaning Losses of [redacted] from Multiple Vessels

basis: EPA/OPPT Multiple Process Vessel Residual Model, CEB standard 2% residual. The ESD recommends using the multiple vessel residual model for equipment cleaning. The ESD estimates release may be to incineration or land.

RELEASE TOTAL
[redacted]

OCCUPATIONAL EXPOSURES ESTIMATE SUMMARY
Tot. # of workers exposed via assessed routes: [redacted]
Basis: The ESD estimates[redacted] The submitter [redacted] EPA uses submission estimate, as conservative.

Inhalation:

Exposure to Particulate (non-volatile) (Class I)
Upper Bound:
> Potential Dose Rate: [redacted]
> Lifetime Average Daily Dose: [redacted]
> Average Daily Dose: [redacted]
> Acute Potential Dose: [redacted]
Number of workers (all sites) with inhalation exposure: [redacted]

Basis: Coating Using Hand-Held Spray Gun; OSHA PNOR PEL-Limiting Model. Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years. /// Cm = 3 mg/m3, h = 8 hr/day.

NOTE: The respirator class is: I. Particulate (including solid or [redacted] droplets).

INHALATION MONITORING DATA REVIEW
1) Uncertainty (estimate based on model, regulatory limit, or data not specific to industry): [redacted]
2)a) Exposure level > 1 mg/day? [redacted]
OR
b) Hazard Rating for health of 2 or greater? [redacted]
=> Inhalation Monitoring Data Desired? **No**

Dermal:

Exposure to [redacted] at [redacted] concentration
High End:
> Potential Dose Rate: [redacted]
> Lifetime Average Daily Dose: [redacted]
> Average Daily Dose: [redacted]
> Acute Potential Dose: [redacted]
Number of workers (all sites) with dermal exposure: [redacted]

Basis: Unloading [redacted] Raw Material from Containers; EPA/OPPT 2-Hand Dermal Contact with [redacted] Model. Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years.